

**2025 Minnesota Energy Planning Project
Stakeholder Advisory Committee**

Meeting 3 Agenda

December 8, 12:00-4:30 p.m.
Honeywell Learning Center
1985 Douglas Dr. N.
Golden Valley, MN 55422

Meeting Attendees:

First Name	Last Name	Company
Lisa	Barajas	Metropolitan Council
Jeff	Beale	Honeywell Smart Grid Solutions
Sheri	Brezinka	USGBC-MN
Sarah	Clarke	Clean Energy Economy MN
Anna	Dirkswager	MN DNR
Jenny	Edwards	CEE
John	Frederick	Frederick Co.
Richard	Graves	Center for Sustainable Building Research
Brianna	Halverson	BlueGreen Alliance
Jennifer	Hassebroek	City of Oakdale
Erin	Heitkamp	Wenck Associates
anna	Henderson	EQB
Kevin	Hennessy	Minnesota Department of Agriculture
Richard	Hermans	Daikin Applied
Robert	Jagusch	Minnesota Municipal Utilities Association
Justin	Kaster	2100 Advisors
Frank	Kohlasch	MPCA
Adeel	Lari	University of minnesota
Nick	Mark	CenterPoint Energy
Jennifer	McLoughlin	City of Woodbury
Amy	Myers	Heartland Energy Solutions
Dan	Myers	Heartland Energy Solutions
Timothy	Nolan	MPCA
Lissa	Pawlisch	U of M Regional Partnerships and Extension
Annie	Perkins	Andersen Corporation
Sarah	Russell	Target
John	Saxhaug	Minnesota Environmental Quality Board
Kevin	Schwain	Xcel Energy
Tim	Sexton	Minnesota State DOT
Ken	Smith	Ever-Green Energy
Sara	Smith	MCES
Thor	Underdahl	Minnesota Power
Christopher	Villarreal	Minnesota PUC

Chuck	Wurzinger	Metro Transit
Grace	Xavier	3M

Staff

Becky	Alexander	LHB, Inc.
Amanda	Bilek	Great Plains Institute
Stephen	Doig	Rocky Mountain Institute
Mark	Dyson	Rocky Mountain Institute
Erik	Fowler	Rocky Mountain Institute
Anthony	Fryer	Dept of Commerce
Michelle	Gransee	MN Dept of Commerce
Amira	Hamdon	Great Plains Institute
Brendon	Jordan	Great Plains Institute
Annie	Levenson-Falk	Legislative Energy Commission
Patrick	Mathwig	Great Plains Institute
	Owens	
Christa	Michelet	Rocky Mountain Institute
Lola	Schoenrich	GPI
Matt	Schuerger	Energy Systems Consulting
Janet	Streff	MN Dept of Commerce
Lise	Trudeau	MN Dept of Commerce

Meeting Purpose:

- Get general feedback on the action plan
- Identify the champions for each strategy
- Get detailed feedback on the strategies, including:
 - Specific, actionable steps for strategy implementation
 - Metrics that need to be developed
- Stakeholders get a clear idea how the project will drive action on each strategy

12:00 p.m. Lunch available for participants and observers

12:30 p.m. Opening Plenary

- Welcome - Jeff Beale, Honeywell
- Introductory comments and introductions - Annie-Levenson Falk, Legislative Energy Commission and Stephen Doig, Rocky Mountain Institute
- Meeting purpose and review of the agenda - Brendan Jordan, Great Plains Institute
- Status update - what we have already done, what will happen at this meeting, what to expect going forward

1:00 p.m. Topic area breakout discussions

- Goal: Review draft strategies, and add specificity to the implementation steps (who does what by when). Identify any areas where additional attention is needed, and assign follow-up steps if necessary.
- Break-outs by topic area:
 - Transportation
 - Electricity Supply and Grid Modernization
 - Efficient Buildings and Thermal Energy
 - Industry and Agriculture
 - Local Planning and Action

Agenda for breakouts

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|-----------|--|
| 1:00 p.m. | Facilitator explains goals and instructions for breakout group |
| 1:05 p.m. | Stakeholders review draft outline |
| 1:10 p.m. | Discuss high-level guiding questions for the <i>collection of strategies</i> |
| 1:20 p.m. | Discuss action plans for <i>each strategy</i> |
| 2:00 p.m. | Break |
| 2:15 p.m. | Continue discussing action plans for <i>each strategy</i> |
| 3:40 pm. | Wrap-up |

Questions for discussion

1. Which organization(s) might own/lead the strategy? Who are the action takers?
2. Are the actions outlined the right ones? What additional actions are required to capture the opportunity?
3. Are the success factors right?
4. What are the top (2-3) metrics? Any sources of data that you have or know of?
5. Are the cross-sector opportunities correctly identified?

Small Group Notes

Transportation

Opening Discussion

- Reducing vehicle miles travelled- had a strategy but it was difficult to make it specific and actionable
- Vehicle pricing
 - Task force to look at mileage based pricing- CSEO is doing it, mileage based user fee

- This work could be a good supplement to CSEO work, would need it by early January.
- Will stick with supporting CSEO and strategies that have a clear champion

Strategy a: Alternative Fuel Buses

- This strategy has been reframed to alternative fuel buses from electrify buses to incorporate non-electrification alternatives.

1. Action items

- Electric school buses seem different than electric public transit bus- should they be grouped together?
 - Different than public transit- will deal with more districts, may have a different purchase mechanism
- Looking exclusively at electric for transportation may be missing some opportunities. Less technology focused and more results driven.
- Action #4: MIPTO: Minnesota public transportation show: a place to convene local transit properties to discuss this. **The big problem with procurement is funding**, the initial outlay is 300 000 over and above a diesel bus and there are range issues for a 40 ft bus.
- Action #4: a workshop focused on higher level ideas that identify areas around the state that may be apt to implement electric buses. How to change the operations of public transit with busses that have different operational characteristics.

2. Cross sector opportunities

- Metro Transit is the biggest public transit provider in MN, biggest user of diesel fuel in MN
- Electric buses charged at garage and have on-road charging
- Metro Transit has done CNG a couple of times in 2010 and 2013
- Visited St. Cloud who have 10 New Flyer CNG buses
- Variety of reasons decided to stall that- comparing CNG to diesel on GHG was not as compelling as an electric vs diesel bus
- CenterPoint Energy- active in CNG and LNG already, have had plenty of conversations with Metro Transit and City of Minneapolis, are having more success with long range fleets
- Tax breaks are a component of transforming fleets- can be an actionable step so long as it's clear what stakeholder is the leader
- City of Tacoma is fueling their buses with biomethane

Strategy b: Electrified Fleets

1. Action items

- Separate action for CNG/LNG and electric vehicle as a strategy be agnostic to technology but as action items technology specific is more clear
- 1a- light duty fleets electric, medium and heavy duty CNG or EV (replicate 1a for CNG)
- Create a demonstration project that links organics collection by city, biofuels, pilot project for fuel clean up to industry and ag objective- link up with a fleet

2. Cross-sector opportunities

- Industry and Ag tie in - do a program similar to Randy's Sanitation.

- Grid Optimization: more of a green play over cost, promote renewables
- Grid Optimization and reduce system cost (add in)

Strategy c: Increased adoption of personal EVs

1. Action items

- Multi-family units are they a part of the workplace charging piece. Workplace and multi-family housing has slightly different barrier. The solutions may be different but will address a similar issue.
- Landlords on rented properties do not have incentives for energy efficiency because they tenants pay utilities
- Workplace charging: logistically easier if not provided as a benefit
- Change #5 ZEV program to “adopt” and bump it up the list as a priority. Strengthen the language.

2. Success factors

- “provide incentives” could create a negative reaction from actors, change to “find ways to reduce the upfront cost of EVs through policy and programs”
- Range anxiety
- Likelihood of battery replacement
- Third success factor: provide information, education on EVs to increase sales. Normalize the buying experience.

3. Cross-sector opportunities

- Grid optimization to promote renewables and cost reduction
- Trying to prepare the state for mass adoption
- Autonomous vehicles are moving much faster than the public is anticipating- they will be electric. What is the state action? The market will figure it out, the best action would be to have the state not be overly involved.
- Executive action on climate change that will have a zero emission vehicle piece

Discussion: CNG Vehicle integration into Bus and Fleet strategy

- Offline conversation with CenterPoint Energy
- The group is supportive of making CNG integrations within current strategies

Electricity Supply and Grid Modernization

Opening Discussion

- Most recommendations for implementation focus on what utilities are going to do
- Where do market/customer enabling solutions come into play? Want to enable non-utility solutions – others need to act.
- From utility perspective, have been doing AMI project with DOE and DOE already has great metrics; similarly with TOU; working on green power options; do see ourselves as champions because we already working on these
- Plain language principles helpful; many readers don’t have technical knowledge
- Consumer education important
- Energy literacy of MN citizens was basic stipulation of grant

Strategy a, i: Deploy advanced metering infrastructure

1. Action items

- Action 1 is already well underway – acknowledge that in the report
- Action 5 – identify how this report/group can complement what is already happening in AMI deployment and remove barriers if there are ones
- Education of consumers – people don't understand what value stack could be
- Action 6 proposed: after this work is done, looking at analysis or case studies of states where AMI has been done; education to big consumers – help them understand the value
- Need distinction between inward and outward-facing meters and who plays role

2. Cross-sector opportunities

- Business opportunities
- Demand response
- Transportation and EVs
- Place for local planning? What authority do local ordinances have for accelerating installation of smart meters? Point of sale, etc.

Strategy a, ii: Deploy smart inverter functionality

- Already commercial technology
- If you put it in the installation / customer cost, not that expensive incremental cost

1. Actions items

- Consecutive or concurrent actions? Not sure if you need a pilot; benefits are well understood but not enabled by the standard
- Don't need Action 1
- Do need Action 3
- Utilities could propose requiring customers to install smart inverters but PUC would need to pass
- Smart inverters not enough to resolve all interconnection issues but part of a solution

2. Cross-sector opportunities

- Connection with transportation – EV charging
 - your charger could talk to your smart inverter from your solar panels – excess power goes to car unless it's more beneficial to send to grid and charge later
- Home energy management systems

• Additional discussion

- How much more of an impact will this have relative to other strategies?
- May help adoption of distributed solar in 10 years
- No-regrets strategy: hard to go back and do later
- Way to eliminate a big barrier on planning for DERs
- Costs relative to benefits pretty low – software enabled
- Provide context in final report; improving Minnesota's grid infrastructure so we can be prepared for the next 20 years; reduces overall system costs

Strategy b, i: Adopt time-based rates

- Is this targeted at residential and small commercial customers? Large industrial customers already have this
 - If this is targeted at residential and small commercial, will it have an impact? Maybe if we have EVs
- Do we want to have real-time pricing for every customer? Why? What would it achieve?
 - People would shift habits if pricing were more accurate
- Cost savings should be the goal
 - Peak period is changing, also based on penetration of solar & wind
 - TOU rates have broad impact – use our investments as best we can without using another gas peaker plant
- Send accurate price signal to derive customer response
- Behavior change difficult – need a wide margin to change
 - Integrate with smart homes, controls
- How does this affect low-income families, multi-family tenants?
- Does utility need to be decoupled to have TOU be successful?
 - Without decoupling, could impact rate and customer response
 - How do nonprofit utilities deal with this?
- If you are making utility sell less and deliver more, how can we do that and still make money? These strategies also show business opportunities – make money on other services you are providing
- TOU rates more about setting the price signals to reshape the profile and you may get some reduction of usage, but mostly you are reshaping the curve and saving the system money
- When thinking of the pricing structure, are you imposing the cost on a household or am I actually saving money? Will I be charged more as a penalty? Is the time of use rate only an opportunity to save?
 - Rate must be revenue-neutral and impact-neutral manner for some % of customers

1. Action items

- Has to be educational component with TOU to have any chance of success
- Action 3 – wouldn't characterize things as programs – decide to what extent utilities can couple other things with the rates on their own
- What is Action 3? Rebate on thermostat
- Distributed storage, household storage?
- Determine ideal load profile that we are pursuing – what response we need

2. Cross-sector opportunities

- Off-peaking charging for EVs and batteries
- Thermal energy
- AMI
- Need retail and wholesale price to roughly match
 - Do not want mixed signals for consumption

Strategy b, ii: Expand and improve utility green power options

- Consumer confidence and assumptions about RECs
 - Basis for consumer adoption: need to have enough understanding of what this does and what it will accomplish
- Additionality – if you are going to offer green tariff, want to make sure it meets certain characteristics – accountability on where RECs are going; the way large commercial customers look at green tariffs, want additionality – want to be responsible for adding new clean energy to the grid – claim the attributes

- Corporate Renewable Energy Buyers Standards – include who is already a part of it in Minnesota
- Don't want to limit this to just utility options – what about other service providers, PPAs?
 - In education component, include all options
 - Our discussion has been within current regulatory framework

1. Action items

- Certain characteristics required – accountability and additionality
 - With CPP, will make a difference with compliance system
 - Universities make claim about renewables, but don't retire RECs - use them to fund the project
- PPA agreements
 - A lot of commercial customers would do this if they were allowed to lease their rooftop space to a solar provider (connected back to grid)
 - State law does not allow – would need statutory change

2. Cross-sector opportunities

- Unclear what renewable natural gas means

Efficient Buildings and Thermal Energy

Opening Discussion

- Where does DG fit?
 - ZNE and district energy (implicitly) → All fits together in thermal and grid strategy. Needs cross sector coordination.
 - Will be increasingly incorporated as part of SB 2030 as performance requirements increase. Needs to be explicitly called out.
- Behavioral EE Programs
 - Keep as top line strategy
 - Break out building operations from behavioral
- Possible strategy categories:
 - Design, occupancy, operations
 - Existing buildings, new buildings

Proposed New Categories:

1. **New Buildings/Major Renovation**
 - a. **SB 2030**
2. **Existing Buildings**
 - a. **Operations/Behavioral**
 - b. **Benchmarking/Data Access**
 - c. **CHP/District Energy**

1. Operations/Behavioral

- a. Operations
 - i. Enhanced automation and control
 1. Weather.com data to change thermostat
 2. Hotel room occupancy sensors for thermostat management
 3. DR during night lowering home temp by a couple of degrees
 - ii. Building managers, operators, and those who impact energy usage

1. Identifying building manager/monitor (AHSRAE requirement)
 2. Conduct manager training
 3. Rapid retirement of building operators
 - a. Opportunity for training next generation of building operators.
 - b. High priority for DLI.
 - c. Poss trainers
 - i. Tech colleges
 - ii. Operator/building certification
 - d. Encourage energy management technology to new generation
 - iii. Recommissioning/On-going Commissioning
 - iv. Barriers
 1. Apathy
 2. Lack of knowledge
 3. Short C&I payback requirements
 4. Retirement of building operators
- b. Behavioral
- i. Increase the schools program for EE program to other building types.
 - ii. More challenge programs
 1. Energy Star program
 2. MN Valley program.
 3. City energy prize
 4. Competitions with businesses, faith groups, business
 - iii. Encourage more utility driven activities
 - iv. Complete analysis of behavioral programs in CIP, continue studies to identify opportunities

2. Data Access/Benchmarking

Strategy a. Increase adoption of building energy benchmarking programs

- Primary focus should be technical assistance/incentives/education, rather than access to software.
- Too focused on B3 program, action items should include EnergyStar Portfolio Manager as well
- Note the distinction between benchmarking/reporting and public disclosure. It is easier to start the ball rolling by requiring people to look at their own data than to require them to share their data publicly.
- Start with voluntary, incentivized participation programs to pave the way for mandated requirements (e.g. by local governments)
- Three stages to action plan, each to include both engagement of building owners and access to tools:
 - Promote building benchmarking and reporting programs
 - Promote public disclosure programs
 - Identify process for taking action based on benchmarking (learn from City of Minneapolis challenge)
- Consider a lease requirement for State-leased spaces to benchmark whole building energy usage

Strategy c: Enhance energy data access through Green Button

- Change name of strategy to “Enhance energy data access through an established standard protocol”
- Change focus of intro text to the importance of having a consistent industry standard for utilities to use to report energy data.
- Green Button is a standard protocol that has risen to the top, but its potential limitations (e.g. cost to utilities, usability for natural gas data) need to be understood before widespread adoption.

- Comments on actions:
 - Acknowledge and build upon current pilots
 - Use pilots to understand the cost to utilities to provide data access in a standardized format.
 - Actions should determine a way for all utilities to have access to and training on protocol.
 - Action to identify the process a building owner goes through to get data.
 - The metering infrastructure is unlikely to support 15-minute interval data in the near- to mid-term for the majority of Minnesota energy users. It still makes sense to plan for this ability in the future.
 - A suggested action is for the Department of Commerce to host Green Button training sessions with utilities.
 - Consensus to defer to the PUC energy data access/data privacy docket for a ruling about who can access energy usage

3. New Buildings

- a. Use SB 2030 to better enable DG
 - i. Include explicit enabling language in govt building standards
- b. SB 2030
 - i. Work out interaction between CIP and local SB 2030
 - ii. ID barriers to achieving SB 2030 in private sector
 - iii. Increase stakeholder education on SB 2030
 - iv. Determine political challenge of including SB 2030 as appendix chapter to energy code (DLI, builders)
 - v. Determine if there should there be more than SB 2030. What other options could be used

Industry and Agriculture

Opening Discussion

- Energy storage is a gap in the overall outline of strategies under consideration
- Opportunity to look at funding for implementation activities in the 2025 Energy Action Plan from clean energy technology announced at COP21 in Paris.
- Follow-up with Lisa Hughes as DEED to discuss strategies to help position and market MN as a energy development destination to entities outside of MN.

Strategy a: Commercialize advanced biofuels and biobased chemicals

1. Action items

- Action 2. Supply chain mapping or study for different advanced biofuels and biobased chemicals pathways.
 - Need to include supply chain mapping (study) and development for the whole industry – so it can grow beyond just isolated locations
 - Create marketing piece to elevate MN nationally as a destination for biofuel and feedstock
 - Tell the MN Story. Need to find who will fund a study, who has a priority for it – also need a life cycle study. Study product by product. Examine:
 - Economics/value of end products. How do you make the economics of those supply chains work
 - Potential markets/buyers
 - Different products

- Feedstocks
 - Resource flow
- Action 3: Renewable Jet Fuel study. Would also be a supply chain mapping study but specific to renewable jet fuel.
- Action 4: Addressing feedstock supply infrastructure, concerns, and availability
 - Barriers to feedstock – for forestry and agriculture materials:
 - RFS definition for wood source and RFS RIN credit value (long-term stability) for advanced biofuels and biobased chemicals
 - Securing feedstock supply from private landowners (for wood supply the available wood will need to be sourced from privately owned lands). Need to be able to access feed stocks in a more predictable manner for the increase of bio industry.
 - Private property has the most amount of wood and it is hard to access and school trust lands.
 - Tax incentive for private property owners to bring their wood to market
 - Long-term feedstock supply agreements
 - Educate clean tech supporters on the forestry supply issues. Need more private land owner involvement. Much more spread out and smaller scales, so a supply chain study would be very valuable.
 - For ag biomass there are water quality concerns for using commodity agriculture (corn, soybeans) residue. Perennial crops provide water quality benefits but supply is lacking. Farmers would need a 3rd profitable crop and good for the environment
 - Need more public research for residue removal strategies that will not have a negative impact on water and soil quality.

2. Cross-sector opportunities

- Finding an environmentally friendly crop for buffers to be a 3rd crop options for farmers and as feedstock would be a strong cross sector opportunity for AD, biobased chemicals, CHP
- Cross sector opportunity with Advanced Energy Cluster to create marketing to advertise MN as a location for bio productions and bio feed stocks
 - Could also include forestry as a sector for advanced energy cluster participation

Strategy b: Capture organic feedstocks through anaerobic digestion

1. Action items

- Action 1: Develop case studies and success stories for AD.
 - Not necessarily from MN, but to show an example of what would work well in MN – profiling applicable applications.
 - Need to include supply chain study and development for the whole industry – so it can grow beyond just isolated locations
 - It's hard to find private funding or foundation funding
 - More likely to have a state agency take charge
- Action 3: Revise the solid waste hierarchy to include AD.
 - AD isn't currently included. Looking to create a new hierarchy. It will need to integrate energy and waste, which is currently separate
- Action 4: Engage project financiers by convening in a dialogue and solicit one-on-one feedback to identify what needs to be in place to help ensure project investment.

- Action 5: Developing the full value proposition for AD. Resetting the conversation on AD for the State of MN. Position AD through greater education of resource potential and position project development as an economic and market opportunity for MN. Make it clear that MN could be missing out on a significant opportunity to export knowledge and models into other parts of the US.
 - How do you create a value proposition to building an AD
 - A lot of opportunities, but the trouble is funding. They are all very unique
 - Action 6: Support applied research for biogas clean-up solution for on-farm biogas projects.
 - Research needs to have clear goals and applicable deliverables – to have outcomes.
 - Action 7: Dedicate a pool of money for a study to determine how metro counties will meet recycling goals.
 - Counties have waste goals that they are not meeting and will not meet, have them look at AD as a way to meet those goals, or be a part of the solution
2. Cross-sector opportunities
- Advanced Energy Cluster Org could take the task of finding partners to fund doing studies and creating resources – they would be the bridge.

C. Promote industrial efficiency practices

Did not discuss in detail but could use the 2025 Energy Action Plan project as an opportunity to highlight the corporate commitments by MN companies to reduce energy use.

D. Create an Advanced Energy Cluster Organization

Follow-up: Try to schedule a meeting that will bring together all the leaders developing different cluster organizations to discuss what gaps exist and could be served by this project.

Local Planning and Action

Opening Discussion

- Started with three strategies: local, state, and cluster. Cluster was moved, state and local was combined and then split into planning and action. Group agreed to this breakout.
- The wording “success factors” is a bit confusing. Make clear that it means what needs to be in place in order to be successful, not what the outcomes of success would be.

Strategy a: Incorporate energy into local government policy, planning, and regulatory frameworks

1. Action items

- Action 1.
 - Collecting data includes ‘making the case’ for any change. Show how money can be saved through ‘green’ practices (ROI).
- Action 2.

- Modify develop a framework to develop and educate cities on a framework, including the ‘why’ (ROI, impacts of actions + +, influence of other actions, such as water that also impacts energy) of the framework
- Need community plan for legislative changes to support integration of DG
- Quick movement is needed in order to incorporate into the comp plans that are completing in the next two years (then it’s another 10 years). This strategy needs to be prioritized to be incorporated into the 2018 plans. Action items 1-4 are all connected.
- Action 3.
 - Provide toolkits and models is key to success
 - All actions need a high level of transparency and communication in order to engage all voices needed for success
 - Recommended added action towards incorporating worker-level input, disadvantaged businesses, persons of color, etc.
 - Incorporate the “why” in toolkits
 - Include best practices on permitting, utility agreements, etc.
 - Include leverage of city resources, e.g. Minneapolis; e.g. Duluth – upgrade district energy system
- Action 4.
 - Should not be lumped in with other communities; need to respect sovereign nation. However, some of the other actions would be the same perhaps, with tribal communities.
- Action 5.
 - Separate from comprehensive planning, as comp plans are legally binding
 - Action plans are valuable to get work done, but they are living documents, so they most often need to stay separate from comprehensive plans
 - Smaller cities may not separate action plans
 - Bring the utilities more into this conversation
- Action 6.
 - A.
 - B. grant funding or technical support
 - Provides public conscious and get groundswell – showing financial savings –
 - Engage local citizens to move governments towards these actions

2. Cross-sector opportunities

- More data access and vetting is needed
- All synergies important
- Other resources: add solar suitability app, Windlogics wind map

Strategy b: Increase local government action through voluntary best practices

1. Action items

- Action 1. Adopt best practices
 - Really focused on greenstep cities. Perhaps state it instead as “green step cities best practices”

- Action 2. Address solar in comp plans
 - Move into strategy a.
 - Solar is required in Metro comp plans. Suggest additional green energy options.
- Action 3. Explicitly address solar development in its varied forms
 - EERE development in various forms within community development regulation – broaden, not just solar
 - Woodbury has this in their city (call it “alternative energy”)
- Action 4. Streamline permitting process
 - Clarify this is permitting for distributed generation
 - There’s a template through Grow Solar
- Action 5. Invest in solar on public lands
 - Expand to include other forms of renewable energy and all financing methods, including PACE – or call out in a strategy on mid-sized businesses
 - Big businesses are already leading in many cases (not all)
 - Focus on mid-size businesses might be needed at local level – more bang for the buck in larger users, but they’re not engaged much now
 - Need to make it easy for them – smaller and mid-size businesses can’t take on more work
 - Cross-sector opportunity – tie to the industry and ag section
 - Incorporate into Action #1
 - Incorporate utility – should this be added as a strategy 8? – action planning on a local level – incorporate into #5
- Action 6. Develop local programs
 - Revise to: Develop local programs for education of all sectors of opportunities in energy efficiency and renewable energy.
 - Lack of programs is not the issue. Education/marketing issue; combine with #3, working on city policy/ordinances
 - Tackle some of the energy poverty issues by providing access to ‘all’ of the community;
 - What work could be done to make space more business friendly
 - If kept, modify action to “develop education programs” to “provide greater access,” aggregating programs that already exist
 - Discuss on focus of where efforts should be made – big business vs. residence, small business, etc. – all areas – cities/counties work with all sectors – maybe more emphasis available for mid-sized businesses
- Action 7. Engage tribal governments
 - Expand to all forms of renewable energy
- Additional: Add an action for something about having an integrated infrastructure development policy
 - How to help local governments recognize key moments of opportunities (e.g. road construction, large redevelopment, etc.) and integrate energy planning into the other areas of planning that go along with that?
 - Needs to be timely; sometimes the energy aspect comes in too late to the conversation
 - The group wasn’t exactly sure how to get at this in an Action. Homework to think about this and come back with any suggestions

- Could add an action on media and or around effective program implementation

2. Cross-sector opportunities

- Add benchmarking tools as related resources / ROI
- Add PACE as a funding source; GESP, LEEP on technical assistance
- Add MREA solar bulk purchase program

4:00 p.m.

Closing plenary discussion

- Group discussion: What strategies are you excited about, especially those that need cross sector coordination?
 - Transportation talked about electric buses. Metro Transit is actively pursuing, cost benefit analysis, and operational considerations
 - Incorporate durability into the equation- look at lifecycle analysis of energy efficiency products
 - Telecommuting push to reduce VMT- definition is once a week
 - Buildings group- a growing need for building operations managers to replace retiring managers
 - Industry and Ag discussed advanced chemicals and biofuels. Working with a partnership on renewable jet fuels to conduct a feasibility study to determine what fuel may be the most successful in jet fuel.
- Discussion in pairs: What can I or my organization do to advance one or more of these strategies?
 - Energy Efficiency group: SB2030- letting people know what these projects would look like on community levels
 - Existing regulatory structures: how to overall make them more efficient and perhaps change them in a way to make them more beneficial.
- Group discussion: Constructive closing comments that can help guide the project team in finalizing the action plan.
 - The opportunity to come together and network is valuable
 - Important to write the action plan in such a way so it is accessible to the “lay person” and education. If there are implied statements that energy focused people will understand make them explicit.
- Next steps
 - Notes will be shared before comments are due

4:30 p.m.

Adjourn

Criteria for Action Plan Strategies

1. Strategy or technology's potential impact toward current MN energy, climate, other air quality, and environmental justice goals
2. The potential for the 2025 MN Energy Action Plan Project to move the needle on a particular strategy in the context of related projects in MN.
3. Likely benefits relative to costs
4. Commitment by stakeholders to advancing the strategy and ability to leverage additional resources
5. Has potential to provide benefits across sectors